

Jan Arthur Aune et al.  
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### **REMARKS**

Claims 2-6, 8 and 10-11 have been amended. The limitations of claim 1 have been inserted into claim 5 and the limitations of former claim 5 have been inserted into claim 8. All claims should be allowable except that argument is made for allowability of claim 1.

### **CLAIM REJECTIONS UNDER 35 U.S.C. 112**

The term "at least one side wall contact" and "bottom wall" (claim 11) have been inserted where appropriate in accordance with the Examiner's suggestions. If applicants have missed any insertion, the Examiner is requested to make such insertion by Examiner's amendment. With the amended insertions, applicants submit all 35 U.S.C. 112 rejections have been met.

### **CLAIM REJECTIONS UNDER 35 U.S.C. 102**

Claims 1-2, 4 and 8 are rejected as anticipated by Johansen et al. '193 and claims 1-4 have been rejected as anticipated by Titus et al. '645 and Savov et al. '023. The inventors and their managers have made the following observations which I present here in argument for allowance of claim 1:

There is a major difference between electrodes and side wall contacts. Electrodes are used to supply electric current to the furnace, while side wall contacts are not connected to a power source, but act as a zero point for the current in the furnace. (see paragraphs [0005] and [0011] of the specification). Applicants would be willing to have the Examiner insert by Examiner's amendment the following at the end of claim 1: "where

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the at least one side wall contact functions as a zero point for the current supplied to the vertical electrodes" or the like.

The Examiner mixes up the two stages of the reactor in U.S. Patent No. 6,440,193. He states (quite correctly) that the electrode arrangement of U.S. 6,440,193 comprises vertical electrodes supplied by alternating current. He, however, goes on saying that there is also a plurality of side wall contacts or side wall electrodes. This is only partly correct. The electrodes he refers to are the horizontal side wall electrodes in stage 2 of the reactor, and these electrodes are not side wall contacts but are electrodes that are supplied with alternating current from a source independent of the power source supplying AC current to the vertical electrodes in stage 1.

The Examiner goes on stating that claims 1-4 as amended are rejected under U.S.C. 102(D) as being anticipated by Titus (U.S. 6,127,645). This patent relates to an integrated arc plasma-joule heated melter waste unit. The unit comprises a vertical electrode 22 supplied either by AC or DC current. The unit of this patent is, however, not equipped with side wall contacts. The Examiner refers to side wall contacts or side electrodes 86a, 86b (figures 2(c) 2(b), 2(c) and 2(d) and 308 a, b. Figures 4(a), 4(b), 4(c), 4(d). Again the Examiner does not distinguish between side wall contacts and side wall electrodes. From Figures 5 in U.S. 6,127,645 it is clearly shown that the electrodes 308 a, b is supplied with AC current from a power source. Further this power source is different from the power source for supplying AC or DC power to the vertical electrode 22. Thus the electrodes 86a, b and 308a, b cannot act as side wall contacts to provide a zero point for the AC for DC current supplied to the vertical electrode 22. The Examiner

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also rejects claims 1-4 as being anticipated by Savov (U.S. 4,246,023). Savov shows side wall electrodes supplied with current from a DC power source. Savov thus does not teach side wall contacts as set out in the meaning of the present invention.

None of the cited patents teach side wall contacts used as a zero point for vertical electrodes intended to be submerged in a liquid slag bath in an electric slag smelting furnace. There is a major difference between electrodes used to supply electric current to a furnace and contacts that act as a zero point for vertical electrodes for supplying AC current to a furnace.

**CLAIM REJECTIONS UNDER 35 U.S.C. 103/  
ALLOWABLE SUBJECT MATTER**

Claim 5 should now be allowable, as the "at least one" side wall contact has been inserted and claim 1 and 5 merged, consistent with Examiner's last paragraph before the REMARK, on page 4 of the FR Office Action. Additionally, the limitations of claim 5 have been inserted into amended claim 8. While claim 5 was not dependent on claim 8, its limitations were considered allowable and claim 5 does speak to a moving means which implies method type language. Latitude or alternate language is requested in this regard.

Applicants respectfully submit that claim 1 and amended claims 2-6, 8 and 10 are neither taught nor made obvious by either Johansen et al., Titus et al. or Savov et al., taken either alone or in combination.

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### SUMMARY


All outstanding issues are believed to have been addressed. In view of the foregoing amendments and arguments, applicants respectfully submit that claims 1, 2-6, 8 and 10-11 are in condition for allowance; and applicants respectfully request entry of the amendment, reconsideration and allowance of those claims. However, any suggestions by the Examiner as to deletion or modification of language to present allowable subject matter would be appreciated.

While this amendment is submitted in the last month of the three month term, prompt attention is solicited so applicant's management can determine promptly whether to cancel any non-allowable claims and pass the rest to issue.

Respectfully submitted,

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